In the Specification

1. Please replace paragraph [0105] of the Published Application with the following amended paragraph:

[0105] By feeding the output of VCO 604 back to the phase comparator 600, the input to the VCO 604 is adjusted by the LPF 602 to increase ~~of~~ or decrease the output frequency of VCO 604 until the frequency and phase of the two inputs to the phase comparator are equal.

2. Please replace paragraph [0110] of the Published Application with the following amended paragraph:

[0110] When switch SW2 is in its A position, phase comparator 601, LPF 603 and VCO 605 form a phase locked loop, in a manner similar to that described above for the RTD. By feeding the output of VCO 605 back to the phase comparator 601, the input to the VCO 605 is adjusted by the LPF 603 to increase ~~of~~ or decrease the output frequency of VCO 605 until the frequency and phase of the two inputs to the phase comparator are equal.

3. Please replace paragraph [0111] of the Published Application with the following amended paragraph:

[0111] By changing the position of SW2 from its position A to its position B, the output of VCO ~~604~~ 605 can be made to produce a fixed frequency output clock in the TTD that is the original timing clock that other PLL blocks must lock to.

4. Please replace paragraph [0130] of the Published Application with the following amended paragraph:

[0130] The selection of whether a driver should be in the TTD or RTD is determined by the timing compensation required. When the transmission time along optical path

F1 is changed due to environmental factors, both the flight time of the signals on quantum channel 24 and timing channel 54 along the optical path F1 see the same environmental factors, and they change flight time by the same amount. Signals in the TTD do not get delayed as they do not travel along optical path F1. On the other hand, signals in the RTD are delayed by the optical path flight time. By using a separate RTD, the time variation in optical path flight time is automatically accounted for with reference also to FIG. 2E, for OTDR functions the RTD and TTD are locked together, so that the time delay of a pulse traveling from the TTD-based laser ~~pulse~~ 100B to the RTD-based photon detectors 114B and 116B can be measured. This allows the time variation in optical path flight time to be measured, rather than being removed. The time variation is then used to deduce information regarding the location reflection points RP1, which may be optical taps set up by an eavesdropper.